CLAIMS

1. (canceled)

2. (previously presented) The method of claim 19, wherein the piezoelectric film is composed of aluminum nitride or zinc oxide.

3. (previously presented) The method of claim 19, wherein the patterned electrode is composed of aluminum or titanium.

4. (previously presented) The method of claim 19, wherein the substrate is composed of silicon or gallium arsenide.

5. (canceled)

6. (previously presented) The method of claim 19, wherein the non-conducting layer is planarized by chemical mechanical polishing.

7-8. (canceled)

9. (previously presented) The method of claim 19, wherein the second layer is a non-conducting layer that has a low dielectric constant.

10. (previously presented) The method of claim 19, wherein the second layer is SiO_2.

11-18. (canceled)

19. (currently amended) A method of forming a thin film acoustic device, the method comprising the steps of:

forming a base electrode;

forming a second electrode;

forming a piezoelectric film between the base electrode and the second electrode to enable application of an electric field to the piezoelectric film, wherein the foregoing is accomplished by:

providing a substrate;

depositing and patterning a first conductive layer to define the base electrode with an edge region having a first height relative to the substrate; and

placing a second layer of material over the substrate with a portion positioned along the edge region of the base electrode, said portion having a height relative to the substrate so as to eliminate or substantially reduce a step along the base electrode edge region relative to the first height, wherein the second layer of material is formed by:

depositing a ~~non-conductive~~ non-conducting layer after patterning the first conductive layer; and

planarizing the non-conducting layer by chemical mechanical polishing, polymer planarization, or polymer reflow with liftoff.

20. (previously presented) The method of claim 19, wherein the step of forming the piezoelectric film includes depositing the piezoelectric film on the patterned electrode and the second layer.

21. (previously presented) The method of claim 19, wherein the piezoelectric film serves as a support membrane for the device.

22. (previously presented) A method of forming a thin film acoustic device, comprising:

forming a base electrode on a substrate;

patterning the base electrode;

depositing a non-conducting layer on the patterned base electrode and substrate;

planarizing the non-conducting layer by chemical mechanical polishing, polymer planarization, or polymer reflow with liftoff so that the non-conducting layer and patterned base electrode form a continuous layer having a level surface;

forming a piezoelectric layer on the level surface of the continuous layer; and

forming a second electrode so that the piezoelectric layer is positioned between the base electrode and the second electrode to enable application of an electric field to the piezoelectric film.

23. (previously presented) The method of claim 22, wherein the level surface provided by the planarized non-conducting layer and patterned electrode improves the mechanical integrity of the piezoelectric layer by eliminating the edge of the patterned electrode.

24. (canceled)

25. (canceled)

26. (previously presented) The method of claim 19, wherein the non-conducting layer is planarized by polymer reflow with liftoff.

27. (currently amended) The method of claim 19, wherein the base electrode is formed by:

applying the first conductive layer ~~of electrode material~~ on the substrate;

applying and patterning non-electrode material over the first conductive layer ~~of electrode material~~ to form an etch mask;

etching the first conductive layer ~~electrode material~~ to form the base electrode under the non-electrode material;

applying the ~~second layer of~~ non-conducting layer ~~material~~ over the non-electrode material and adjacent to the base electrode; and

removing the non-conducting layer ~~material~~ over the non-electrode material and removing the non-electrode material, leaving the non-conducting layer ~~material~~ adjacent to the base electrode.

28. (previously presented) The method of claim 22, wherein the non-conducting layer is planarized by chemical mechanical polishing.

29. (previously presented) The method of claim 22, wherein the non-conducting layer is planarized by polymer reflow with liftoff.

30. (previously presented) The method of claim 22, wherein the continuous layer is formed by:

applying a layer of electrode material on the substrate;

applying and patterning a layer of non-electrode material over the layer of electrode material to form an etch mask;

etching the electrode material to form the base electrode under the non-electrode material;

applying non-conducting material over the non-electrode material and adjacent to the base electrode; and

removing the non-conducting material over the non-electrode material and the non-electrode material, leaving the non-conducting material adjacent to the base electrode.

31. (previously presented) The method of claim 30, wherein:

the non-electrode material is a polymer material; and

the non-conducting material over the polymer material and the polymer material are removed by immersion in a liquid polymer solvent to lift off the non-conducting material over the polymer material.

32. (previously presented) The method of claim 30, wherein:

the electrode material is etched using an isotropic process to create the base electrode having an undercut profile under the non-electrode material; and

the non-electrode material over the base electrode is reflowed after creating the base electrode having the undercut profile to retract the non-electrode material towards the edge of the electrode.

33. (previously presented) The method of claim 32, wherein:

the non-electrode material is a polymer material; and

the non-conducting material over the polymer material and the polymer material are removed by immersion in a liquid polymer solvent to lift off the non-conducting material over the polymer material.